

CLIPPEDIMAGE= JP409308185A

PAT-NO: JP409308185A

DOCUMENT-IDENTIFIER: JP 09308185 A

TITLE: FLYWHEEL

PUBN-DATE: November 28, 1997

INVENTOR-INFORMATION:

NAME

KAMIYAMA, HIROTOMO

TANIGUCHI, MANABU

ASSIGNEE-INFORMATION:

NAME

KOYO SEIKO CO LTD

COUNTRY

N/A

APPL-NO: JP08114567

APPL-DATE: May 9, 1996

INT-CL (IPC): H02K007/02;F16C032/04 ;H02K007/09

ABSTRACT:

PROBLEM TO BE SOLVED: To reduce power consumed by an electromagnet and to shorten a shaft.

SOLUTION: A vertical shaft 2 equipped with a flywheel 3 is non-contact-supported by a plurality of sets of magnetic bearings 6, 10. In the flywheel 3, tapered bearing surfaces 4, 8 fronting on the opposite side of each other concerning the axial direction are formed at two upper and lower spots of the shaft 2. Magnetic bearings 6, 10 for both axial and radial use having three electromagnets 18 arranged at predetermined intervals in the circumferential direction are provided in a housing 1 around individual bearing surfaces 4, 8, respectively. The magnetic bearings 6, 10 are

integrated-with-a-motor type
ones which have a motor driving function for rotate-driving
the shaft 2.

COPYRIGHT: (C)1997,JPO

CLIPPEDIMAGE= JP410225017A

PAT-NO: JP410225017A

DOCUMENT-IDENTIFIER: JP 10225017 A

TITLE: FLYWHEEL-TYPE ELECTRIC POWER STORING DEVICE

PUBN-DATE: August 21, 1998

INVENTOR-INFORMATION:

NAME

YUKITAKE, YASUHIRO

TAKAHATA, RYOICHI

EGUCHI, SHOJI

ASSIGNEE-INFORMATION:

NAME

KOYO SEIKO CO LTD

COUNTRY

N/A

APPL-NO: JP09018136

APPL-DATE: January 31, 1997

INT-CL (IPC): H02J015/00;B60L011/16 ;F16H033/02

ABSTRACT:

PROBLEM TO BE SOLVED: To make a flywheel type electric power-storing device small and light, to rotate a rotor faster and to reduce power consumption.

SOLUTION: A flywheel-type electric power-storing device is provided with a rotor 2 having a flywheel 7, a magnetic bearing device 35 for supporting the rotor 2 without contact and a motor generator 5, which works as a motor, when storing power and as a generator when taking power. The magnetic bearing device 35 is provided with two parts of magnetic hearings 3, 4, which support the two portions of the axial direction of the rotor without contact, while the magnetic bearings 3, 4 are provided with four

electromagnets arranged to surround the rotor 2. Each electromagnet 8, 9 is of a roughly horseshoe shape, having axial direction magnetic poles 8a, 9a and radial direction magnetic poles 8b, 9b projecting from the two portions of the axial direction towards the inside of the radius direction. The radial direction magnetic poles, opposite to the external circumference of the rotor, attracts the rotor in the radius direction, while the axial direction magnetic poles, opposite to the surface of the rotor which faces the axial direction, attracts the rotor in the axial direction.

COPYRIGHT: (C)1998, JPO